

ANNOTATIONES ZOOLOGICAE JAPONENSES

Volume 33, No. 1—March 1960

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Published by the Zoological Society of Japan  
Zoological Institute, Tokyo University

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*Raillietina (Raillietina) tokyoensis* n. sp. from  
a domestic pigeon, *Columba livia domestica*

With 3 Text-figures

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(Communicated by D. MIYADI)

A number of the worm under investigation were found in the small intestine of *Columba livia domestica* from Tokyo. The specimens of this species measure 100–130 mm in length and 1–1.3 mm in breadth. The scolex (Fig. 1), 0.19–0.20 mm broad, passes gradually into the neck which is about 0.09 mm broad. The bulbous rostellum, 0.074–0.089 mm in diameter, armed with about 220 hooks of typical Davaineid shape, 0.008 mm long, and arranged in a double row. The round suckers, 0.04–0.048 mm by 0.03–0.048 mm, armed with 7–8 marginal circles of hooklets.

The mature proglottides (Fig. 2) are broader than long, trapezoidal and imbricate, the edge of the strobila being serrate. The unilateral genital pore is

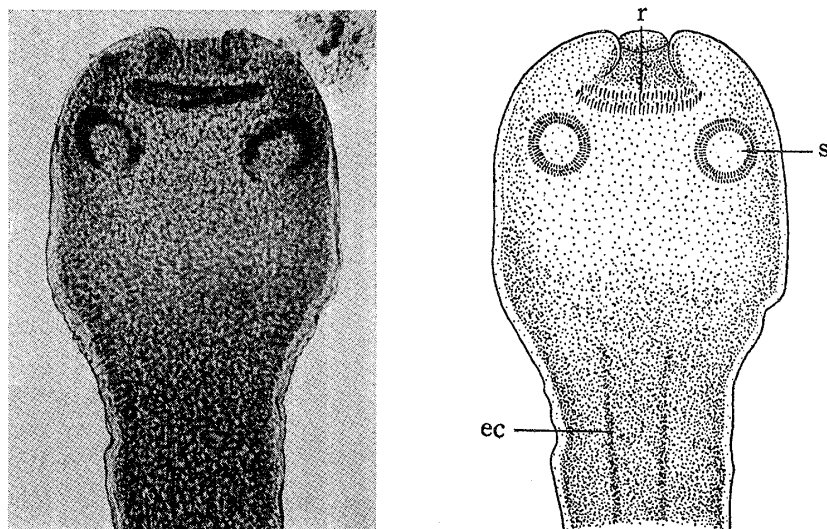


Fig. 1. Scolex, photomicrograph ( $\times 200$ ) and its outline tracing.  
ec: excretory canal, r: rostellum, s: sucker.

located slightly anterior to the middle of each segment margin.

**Male genital organs:** The testes, 20–23 in number, are arranged on either side of and behind the ovary, 6–7 being on the porose side and 14–16 on the aporose side. They are oval in shape, with a diameter of 0.03–0.045 mm and do not extend laterally beyond the lateral excretory vessels. Vas deferens lies in the anterior third of segment, being near the median line, and extends in a much convoluted course laterally to the base of the cirrus pouch, into which it enters and after some coiling in the basal portion of the latter, becomes transformed into the cirrus. The cirrus is without apparent spines. The cirrus pouch, pyriform, 0.134–0.149 mm and 0.074 mm wide.

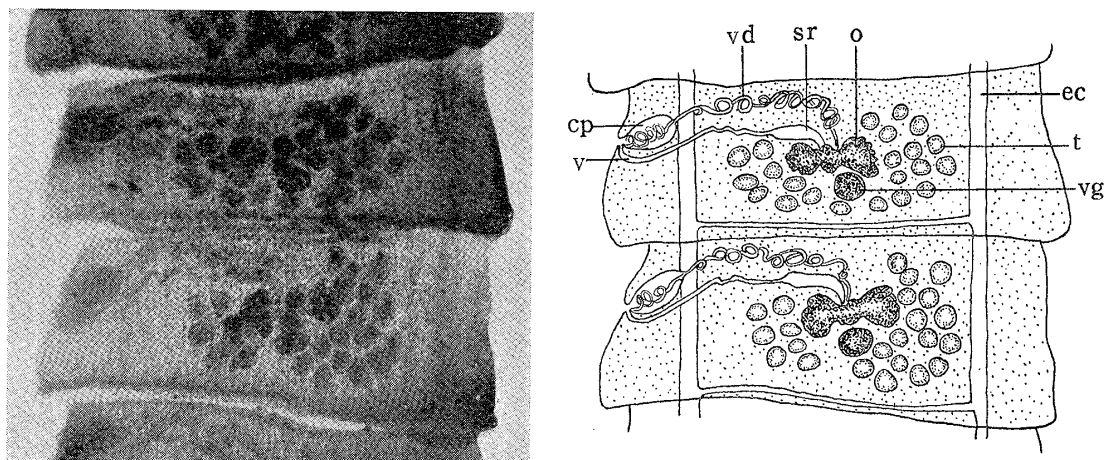


Fig. 2. Mature segments, photomicrograph ( $\times 60$ ) and its outline tracing. cp: cirrus pouch, ec: excretory canal, o: ovary, sr: seminal receptacle, t: testis, v: vagina, vd: vas deferens, vg: vitelline gland.

**Female genital organs:** The coarsely lobed, bipartite ovary is located in the middle of the segment. The yolk gland is irregularly reniform and located behind the ovary. The vagina communicating with the genital pore, posterior to the opening of the cirrus pouch, at first very slender but at a distance of 0.24–0.26 mm from its opening swells out into a thin-walled tube, functioning as a seminal receptacle, which extends transversely across the segment and joins the oviduct on the dorsal side of the ovary near the median tube. A definite and persistent uterus is not developed. In the senile segment, uterus resolves into a large number of egg-capsules, which extend laterally beyond the lateral excretory vessels. The egg-capsules (Fig. 3) are surrounded by a membrane and contain 6–8 eggs. The eggs, 0.026–0.036 mm in diameter, are surrounded by thin translucent envelopes. The oncho-

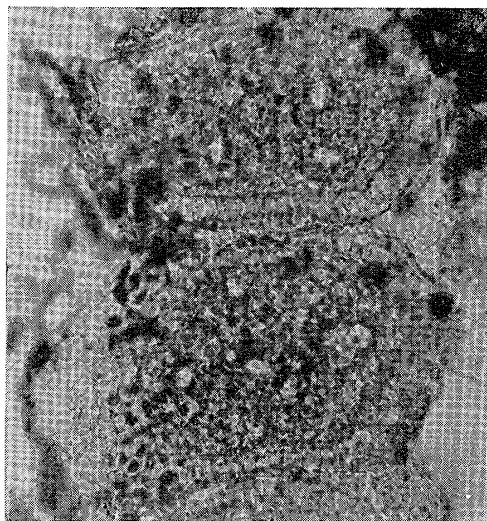


Fig. 3. Egg-capsules.  $\times 300$

spheres, spherical in shape, measure 0.013 mm in diameter, the embryonal hook being 0.005–0.006 mm long.

## DISCUSSION

The present species resembles more closely *Raillietina* (*R.*) *tunetensis* from *Columba livia domestica* described by Joyeux and Houdemer, 1927, than *R.* (*R.*) *ceylonica* Baczynska, 1914 or *R.* (*R.*) *vivieni* Joyeux et Bear, 1935. It, however, distinctly differs from *R.* (*R.*) *tunetensis* in the position of its genital pore—in the former the genital pore is located slightly anterior to the middle of each segment margin, while in the latter it is located at the middle of each segment margin—in the number of rostellar hooks and testes, and in having a smaller sucker (Table 1).

Table 1

Name	<i>Raillietina</i> ( <i>R.</i> ) <i>tokyoensis</i>	<i>Raillietina</i> ( <i>R.</i> ) <i>ceylonica</i>	<i>Raillietina</i> ( <i>R.</i> ) <i>vivieni</i>	<i>Raillietina</i> ( <i>R.</i> ) <i>tunetensis</i>
Reporter	Sawada	Baczynska	Joyeux et Bear	Joyeux et Houdemer
Year	1959	1914	1935	1927
Strobila { Length	100–130	30–40	40	30–120
{ Width	1–1.3	1.328	1.3	1.5
Width of neck	0.09	0.112	?	?
Width of scolex	0.193	0.4	0.200	0.2–0.3
Sucker { Diameter	0.04–0.048	0.13	0.08	0.075–0.08
{ Rows of hooklets	7–8	?	?	5–6
Rostellum { Diameter	0.074–0.089	0.052	0.065	0.05–0.06
{ Hooks { Number	220	120	?	180
{ Rows	2	2	2	2
{ Length	0.008	0.010	0.010–0.012	0.008–0.009
Position of genital pore*	UA	UA	UA	UM
Length of cirrus-pouch	0.134–0.149	0.13	0.055–0.065	0.17
Number of testes	20–23	few	22–25	24–28
Number of eggs in egg-capsule	6–8	6–10	6–10	6–8
Diameter of egg	0.028–0.036	0.028	0.04	?
Onchosphere { Diameter	0.013	0.0182	0.01–0.015	0.014–0.02
{ Length of em- bryonic hook	0.005–0.006	?	?	0.005–0.006
Final host	<i>Columba livia domestica</i>	<i>Pavo cristatus</i>	<i>Coturnix japonica</i>	<i>Columba livia domestica</i>

\* UA—Unilateral, a little anterior to the middle of segment margin.

UM—Unilateral, the middle of segment margin. (All measurement in mm.)

*Raillietina* (*Raillietina*) *tokyoensis* n. sp.

Specific Diagnosis: *Raillietina* (*Raillietina*) Stile et Orlemann, 1926. Body length 100–130 mm, maximum breadth 1.3 mm. Scolex 0.19–0.20 mm broad.

Rostellum bulbous-shape, 0.074–0.089 mm broad. Rostellar hooks about 220 in number, 0.008 mm long, in a double row. Suckers round, 0.04–0.048 mm by 0.04–0.048 mm, with 7–8 rows of hooklets. Neck 0.09 mm broad. Proglottides broader than long throughout. Genital pores unilateral, situated slightly anterior to the middle of each segment. Ovary bipartite. Yolk gland irregularly reniform. Egg-capsule extending to segment margin, each containing 6–8 eggs. Onchospheres spherical in shape, 0.013 mm in diameter and embryonal hooks 0.005–0.006 mm long.

Host: *Columba livia domestica*

Habitat: Small intestine

Locality and date: Tokyo, Japan ; 10 May, 1959

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